EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

REGION	SITE NUMBER (to be assigned by Hq)
6	TX 05746

GENERAL INSTRUCTIONS: Complete Sections I and III through XV of this form as completely as possible. Then use the information on this form to develop a Tentative Disposition (Section II). File this form in its entirety in the regional Hazardous Waste Log File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (EN-335); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION (TXD 086 467800)

A. SITE NAME	B. STREET (or other identifier)		
Richmond Tank Car Company	Old Clute Road (P. O. Box 1000)		
C. CITY	**D. STATE**	**E. ZIP CODE**	**F. COUNTY NAME**
Angleton	TX	77515	Brazoria

G. SITE OPERATOR INFORMATION

1. NAME	2. TELEPHONE NUMBER		
Richmond Tank Car Company	(713) 751-0030		
3. STREET	**4. CITY**	**5. STATE**	**6. ZIP CODE**
Old Clute Road	Angleton	TX	77515

H. REALTY OWNER INFORMATION *(if different from operator of site)*

1. NAME	2. TELEPHONE NUMBER	
Same as site operator		
3. CITY	**4. STATE**	**5. ZIP CODE**

I. SITE DESCRIPTION Washing and maintenance terminal for tank cars and hopper cars.

J. TYPE OF OWNERSHIP

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☒ 5. PRIVATE

II. TENTATIVE DISPOSITION *(complete this section last)*

A. ESTIMATE DATE OF TENTATIVE DISPOSITION (mo., day, & yr.)	B. APPARENT SERIOUSNESS OF PROBLEM
	☐ 1. HIGH ☐ 2. MEDIUM ☒ 3. LOW ☐ 4. NONE

C. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE (mo., day, & yr.)
Philip S. Liang	(713) 943-2922	5/31/84

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION

1. NAME	2. TITLE	
Philip S. Liang	Project Engineer	
3. ORGANIZATION	**4. TELEPHONE NO. (area code & no.)**	
Engineering-Science, Inc. 9920 Gulf Freeway Houston, TX 77034	(713) 943-2922	

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.
Philip S. Liang	Engineering-Science, Inc.	(713) 943-2922

C. SITE REPRESENTATIVES INTERVIEWED *(corporate officials, workers, residents)*

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
Tony Rodriguez	Superintendent (409) 849-8554	1700 West Loop South Houston, TX 77027

DATE 10-10-84 REVIEWED BY cAREER

SUPERFUND FILE

JAN 04 1993

REORGANIZED

90055351

Continued From Front

III. INSPECTION INFORMATION (continued)

D. GENERATOR INFORMATION (source of waste)

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE GENERATED
Richmond Tank Car Company	(409) 849-8554	1700 W. Loop South Houston, TX 77027	washings, pellet sludge

E. TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TRANSPORTED
Brazoria County Disposal Corp.	(409) 849-4364	8311 Stratton Ridge Road, Clute, TX 77531	floatings, garbage

F. IF WASTE IS PROCESSED ON SITE AND ALSO SHIPPED TO OTHER SITES, IDENTIFY OFF-SITE FACILITIES USED FOR DISPOSAL.

1. NAME	2. TELEPHONE NO.	3. ADDRESS
City of Angleton	(409) 849-4364	P. O. Box 726 Angleton, TX 77515
Brazoria County Disposal Corp.	(409) 265-2251	8311 Stratton Ridge Road Clute, TX 77531

G. DATE OF INSPECTION (mo., day, & yr.)	H. TIME OF INSPECTION	I. ACCESS GAINED BY: (credentials must be shown in all cases)
5/10/84	1 PM - 4 PM	[X] 1. PERMISSION [ ] 2. WARRANT

J. WEATHER (describe)

Sunny, 85° F, wind 0 - 5 mph

IV. SAMPLING INFORMATION

A. Mark 'X' for the types of samples taken and indicate where they have been sent e.g., regional lab, other EPA lab, contractor, etc. and estimate when the results will be available.

1. SAMPLE TYPE	2. SAMPLE TAKEN (mark 'X')	3. SAMPLE SENT TO:	4. DATE RESULTS AVAILABLE
a. GROUNDWATER	2	Engineering-Science Laboratory	5/31/84
b. SURFACE WATER	1	924 Gemini	5/31/84
c. WASTE		Houston, TX 77058	
d. AIR			
e. RUNOFF			
f. SPILL			
g. SOIL			
h. VEGETATION			
i. OTHER (specify)			

B. FIELD MEASUREMENTS TAKEN (e.g., radioactivity, explosivity, PH, etc.)

1. TYPE	2. LOCATION OF MEASUREMENTS	3. RESULTS
NONE TAKEN		

Continue On Page 3

Continued From Page 2

IV. SAMPLING INFORMATION (continued)

C. PHOTOS

1. TYPE OF PHOTOS: [X] a. GROUND [ ] b. AERIAL
2. PHOTOS IN CUSTODY OF: EPA Region VI

D. SITE MAPPED?

[X] YES. SPECIFY LOCATION OF MAPS: See attached USGS map and site sketch

E. COORDINATES

1. LATITUDE (deg.-min.-sec.): 29° 09' 02" N
2. LONGITUDE (deg.-min.-sec.): 95° 26' 09" W

V. SITE INFORMATION

A. SITE STATUS

[X] 1. ACTIVE (Those inductrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)

[ ] 2. INACTIVE (Those sites which no longer receive wastes.)

[ ] 3. OTHER (specify): _____ (Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)

B. IS GENERATOR ON SITE?

[ ] 1. NO [X] 2. YES (specify generator's four-digit SIC Code): 3743

C. AREA OF SITE (in acres)

plant area: 9 acres
pond area: 2 acres

D. ARE THERE BUILDINGS ON THE SITE?

[ ] 1. NO [X] 2. YES (specify): office, repair shop, storage shed

VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

X	A. TRANSPORTER	X	B. STORER	X	C. TREATER	X	D. DISPOSER
	1. RAIL	X	1. PILE		1. FILTRATION	X	1. LANDFILL
	2. SHIP	X	2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE	X	3. DRUMS	X	3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY	X	4. SURFACE IMPOUNDMENT
X	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS./TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER (specify):		6. OTHER (specify):	X	6. BIOLOGICAL TREATMENT		6. INCINERATION
				X	7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY	X	8. OTHER (specify):
					9. OTHER (specify):		

wash water is pumped to City of Angleton's sewer

Discharge to the City of Angleton's sewer

E. SUPPLEMENTAL REPORTS: If the site falls within any of the categories listed below, Supplemental Reports must be completed. Indicate which Supplemental Reports you have filled out and attached to this for..

[ ] 1. STORAGE [ ] 2. INCINERATION [ ] 3. LANDFILL [X] 4. SURFACE IMPOUNDMENT [ ] 5. DEEP WELL

[ ] 6. CHEM/BIO/PHYS TREATMENT [ ] 7. LANDFARM [ ] 8. OPEN DUMP [ ] 9. TRANSPORTER [ ] 10. RECYCLOR/RECLAIMER

VII. WASTE RELATED INFORMATION

A. WASTE TYPE

[X] 1. LIQUID [X] 2. SOLID [X] 3. SLUDGE [ ] 4. GAS

B. WASTE CHARACTERISTICS

[ ] 1. CORROSIVE [ ] 2. IGNITABLE [ ] 3. RADIOACTIVE [ ] 4. HIGHLY VOLATILE
[X] 5. TOXIC [ ] 6. REACTIVE [X] 7. INERT [X] 8. FLAMMABLE

[ ] 9. OTHER (specify):

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

Company records

Continue On Reverse

Continued From Front

VII. WASTE RELATED INFORMATION (continued)

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT: 100 - 200	AMOUNT: UNKNOWN	AMOUNT: UNKNOWN	AMOUNT: UNKNOWN	AMOUNT: UNKNOWN	AMOUNT: 1
UNIT OF MEASURE: lb per month	UNIT OF MEASURE:	UNIT OF MEASURE:	UNIT OF MEASURE:	UNIT OF MEASURE:	UNIT OF MEASURE: MG per year
	X (1) OILY WASTES				X (1) LABORATORY, PHARMACEUT.
	(2) OTHER (specify):	X (1) HALOGENATED SOLVENTS	X (1) ACIDS	X (1) FLYASH	(2) HOSPITAL
(2) METALS SLUDGES		(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(3) RADIOACTIVE
(3) POTW		(3) OTHER (specify):	(3) CAUSTICS	(3) MILLING/MINE TAILINGS	(4) MUNICIPAL
(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMELTING WASTES	X (5) OTHER (specify):
X (5) OTHER (specify):			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	Tank car wash water pretreated in stabilization pond before discharging into city sewer.
Oil separator floatings			(6) CYANIDE	(6) OTHER (specify):	
			(7) PHENOLS		
			(8) HALOGENS		
			(9) PCB		
			(10) METALS		
			(11) OTHER (specify):		

D. LIST SUBSTANCES OF GREATEST CONCERN WHICH ARE ON THE SITE (place in descending order of hazard)

1. SUBSTANCE	2. FORM (mark 'X') a. SOLID	b. LIQ.	c. VAPOR	3. TOXICITY (mark 'X') a. HIGH	b. MED.	c. LOW	d. NONE	4. CAS NUMBER	5. AMOUNT	6. UNIT
Oily float		X				X		NONE	100 - 200	lb/mo
Chlorinated Organics		X				X		NONE	Unknown	

VIII. HAZARD DESCRIPTION

FIELD EVALUATION HAZARD DESCRIPTION: Place an 'X' in the box to indicate that the listed hazard exists. Describe the hazard in the space provided.

☐ A. HUMAN HEALTH HAZARDS

Continue On Page 5

Continued From Page 4

VIII. HAZARD DESCRIPTION *(continued)*

☐ **B. NON-WORKER INJURY/EXPOSURE**

☐ **C. WORKER INJURY/EXPOSURE**

☐ **D. CONTAMINATION OF WATER SUPPLY**

☐ **E. CONTAMINATION OF FOOD CHAIN**

☒ **F. CONTAMINATION OF GROUND WATER**

The waste pond was reconstructed in 1976 due to groundwater contamination from the seepage of waste water. The monitoring data of 1983 indicates gradual improvement of groundwater quality.

☒ **G. CONTAMINATION OF SURFACE WATER**

Several incidents of overflowing from the waste lake occurred in the past. The overflow was collected in the drainage ditch that leads to Bastrop Bayou. The waste pond was reconstructed in 1976 with berms rebuilt. Since then, no illegal discharge of overflow has been reported.

Continued From Front

VIII. HAZARD DESCRIPTION *(continued)*

☐ H. DAMAGE TO FLORA/FAUNA

☐ I. FISH KILL

☐ J. CONTAMINATION OF AIR

☐ K. NOTICEABLE ODORS

☐ L. CONTAMINATION OF SOIL

☐ M. PROPERTY DAMAGE

Continue On Page 7

Continued From Page 6

VIII. HAZARD DESCRIPTION (continued)

☐ N. FIRE OR EXPLOSION

☒ O. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUID

The piling area of solidified floating material is not protected from runoff washout. The material is Class I non-hazardous.

☒ P. SEWER, STORM DRAIN PROBLEMS

See Section VIII. F.

☐ Q. EROSION PROBLEMS

☐ R. INADEQUATE SECURITY

☐ S. INCOMPATIBLE WASTES

Continue On Reverse

VIII. HAZARD DESCRIPTION (continued)

☐ T. MIDNIGHT DUMPING

☐ U. OTHER (specify):

IX. POPULATION DIRECTLY AFFECTED BY SITE

A. LOCATION OF POPULATION	B. APPROX. NO. OF PEOPLE AFFECTED	C. APPROX. NO. OF PEOPLE AFFECTED WITHIN UNIT AREA	D. APPROX. NO. OF BUILDINGS AFFECTED	E. DISTANCE TO SITE (specify units)
1. IN RESIDENTIAL AREAS	13,000	13,000	3,475	1-2 miles
2. IN COMMERCIAL OR INDUSTRIAL AREAS	700	700	100	2-3 miles
3. IN PUBLICLY TRAVELLED AREAS	15,800	15,800	0	<0.25 miles
4. PUBLIC USE AREAS (parks, schools, etc.)	650	650	2	< 1 mile

X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER (specify unit)	B. DIRECTION OF FLOW	C. GROUNDWATER USE IN VICINITY
40 to 50 feet	Southeastern *	Domestic & Stock **
D. POTENTIAL YIELD OF AQUIFER	**E. DISTANCE TO DRINKING WATER SUPPLY (specify unit of measure)**	**F. DIRECTION TO DRINKING WATER SUPPLY**
28 to 43 gpm	unknown	Unknown

G. TYPE OF DRINKING WATER SUPPLY

☐ 1. NON-COMMUNITY < 15 CONNECTIONS ☒ 2. COMMUNITY (specify town): > 15 CONNECTIONS City of Angleton

☒ 3. SURFACE WATER ☐ 4. WELL

Continue On Page 9

*Regional groundwater flow direction

**Domestic & stock wells abandoned within mile radius of site, due to saline water intrusion (TDWR Report #113)

Continued From Page 8

X. WATER AND HYDROLOGICAL DATA (continued)

H. LIST ALL DRINKING WATER WELLS WITHIN A 1/4 MILE RADIUS OF SITE

1. WELL	2. DEPTH (specify unit)	3. LOCATION (proximity to population/buildings)	4. NON-COMMUNITY (mark 'X')	5. COMMUNITY (mark 'X')
NONE				

I. RECEIVING WATER

1. NAME: Bastrop Bayou

☐ 2. SEWERS ☒ 3. STREAMS/RIVERS ☐ 4. LAKES/RESERVOIRS ☐ 5. OTHER (specify):

6. SPECIFY USE AND CLASSIFICATION OF RECEIVING WATERS

San Jacinto - Brazos Coastal Basin, Segment 1106: Classified as suitable for noncontact recreation and propagation of fish and wildlife

XI. SOIL AND VEGITATION DATA

LOCATION OF SITE IS IN:

☐ A. KNOWN FAULT ZONE ☐ B. KARST ZONE ☒ C. 100 YEAR FLOOD PLAIN ☐ D. WETLAND

☐ E. A REGULATED FLOODWAY ☐ F. CRITICAL HABITAT ☐ G. RECHARGE ZONE OR SOLE SOURCE AQUIFER

XII. TYPE OF GEOLOGICAL MATERIAL OBSERVED

Mark 'X' to indicate the type(s) of geological material observed and specify where necessary, the component parts.

'X'	A. OVERBURDEN	'X'	B. BEDROCK (specify below)	'X'	C. OTHER (specify below)
X	1. SAND	X	Sand, clayey sand		
X	2. CLAY	X	Sandy clay, silty clay		
	3. GRAVEL				

XIII. SOIL PERMEABILITY

Edna Fine Sandy Loam

☐ A. UNKNOWN 10^{-4} to 10^{-6} ☐ B. VERY HIGH (100,000 to 1000 cm/sec.) ☐ C. HIGH (1000 to 10 cm/sec.)

☐ D. MODERATE (10 to .1 cm/sec.) ☒ E. LOW (.1 to .001 cm/sec.) ☒ F. VERY LOW (.001 to .00001 cm/sec.)

G. RECHARGE AREA

☒ 1. YES ☒ 2. NO 3. COMMENTS: Recharge to Chicot aquifer occur through direct infiltration of precipitation on the outcrop area.

H. DISCHARGE AREA

☐ 1. YES ☒ 2. NO 3. COMMENTS:

I. SLOPE

1. ESTIMATE % OF SLOPE: 0-1%

2. SPECIFY DIRECTION OF SLOPE, CONDITION OF SLOPE, ETC.: Slope towards southeast

J. OTHER GEOLOGICAL DATA

The regional geologic units containing fresh to slightly saline water in Brazoria county are the Goliad sand, Willis sand, Bentley Formation, Montgomery Formation, Beaumont clay, and the Quaternary alluviam. These units range in age from Pliocene to Holocene (Table 1). The rock types are aminly alternative beds of sandstone, shale and clay beds. The formation dip toward the Gulf at an angle (See Attachment A)

Continue On Reverse

Continued From Front

XIV. PERMIT INFORMATION

List all applicable permits held by the site and provide the related information.

A. PERMIT TYPE (e.g., RCRA, State, NPDES, etc.)	B. ISSUING AGENCY	C. PERMIT NUMBER	D. DATE ISSUED (mo., day, & yr.)	E. EXPIRATION DATE (mo., day, & yr.)	F. IN COMPLIANCE (mark 'X') 1. YES	2. NO	3. UNKNOWN
RCRA Interim	EPA	TXD 08647800	11/18/80	-----			X
Solid Waste Registration	TDWR	30207	5/06/80	-----	X		
WCO	TDWR	02019	7/30/76	-----	X		
Texas Clean Air Act	TACB	R 6638	7/03/79	-----			X

XV. PAST REGULATORY OR ENFORCEMENT ACTIONS

☐ NONE ☒ YES (summarize in this space)

In 1972, a wastewater discharge permit, WCO No. 02019, was first issued for discharging of waste lake water into the City of Angleton's sewer. Before 1972, the wastewater was discharged into Angleton's drainage ditch, which leads to Bastrop Bayou.

In 1976, the waste lake was reconstructed to control the groundwater contamination and to prevent overtopping after heavy rains. No enforcement actions were undertaken.

In 1983, TDWR reported the violations of disposing the Class I material (floating material from oil/water separator) in a Class II landfill site. The wastes are not stored on-site. An outside contractor will be used for disposal of these materials.

NOTE: **Based on the information in Sections III through XV, fill out the Tentative Disposition *(Section II)* information on the first page of this form.**

LIST OF ATTACHMENTS

1. Attachment A - Site Inspection Supplement Sheet
2. Attachment B - Surface Impoundment Supplement Sheet
3. Attachment C - Site Inspection Comments
4. Attachment D - Site Location
5. Attachment E - Site Map
6. Attachment F-1 & F-2 - Chain of Custody Record, Laboratory Results
7. Attachment G - Monthly Summary of Waste Lake Samples
8. Attachment H-1 & H-2 - Background Data of Monitoring Wells
9. Attachment I-1 - I-4 - 1983 Groundwater Monitoring Self-Report Data
10. Attachment J - Groundwater Monitoring System Supplemental Form
11. Site Safety and Work Plan
12. Photos

ATTACHMENT A

POTENTIAL HAZARDOUS WASTE SITE
IDENTIFICATION AND PRELIMINARY ASSESSMENT SUPPLEMENT SHEET

Instruction - This sheet is provided to give additional information in explanation of a question on the form T2070-3.

Corresponding number on form	Additional Remark and/or Explanation
III. F.	The floating material from the oil/water separator is Class I non-hazardous and composed of oil and polyethylene pellets. The waste used to be disposed off-site at the Brazoria County Class II Landfill in Clute, Texas. After being notified by TDWR about this violation, the floating material has been stored on-site. Currently, a contract is under negotiation for disposing of this material by Texas Ecologist, Inc., in Robstown, Texas.
XIII. J.	greater than the slope of the land surface; therefore, may occur at greater depth and truck in Gulfward direction (Figure 3). The chief aquifers in the region are Chicot and Evangeline aquifers with a thickness of 500 to 900 feet and 1100 to 1500 feet.

ATTACHMENT B
hmond Tank Car Company
Hazsit #TX 05746

SURFACE IMPOUNDMENTS SITE INSPECTION REPORT *(Supplemental Report)*	INSTRUCTION Answer and Explain as Necessary.

1. TYPE OF IMPOUNDMENT

Irregular-shaped, earthen pond, lined with clay, reconstructed in 1976.

2. STABILITY/CONDITION OF EMBANKMENTS

Good

3. EVIDENCE OF SITE INSTABILITY *(Erosion, Settling, Sink Holes, etc.)*

☐ YES ☒ NO

4. EVIDENCE OF DISPOSAL OF IGNITABLE OR REACTIVE WASTE

☐ YES ☒ NO

5. ONLY COMPATIBLE WASTES ARE STORED OR DISPOSED OF IN THE IMPOUNDMENT

☒ YES ☐ NO

6. RECORDS CHECKED FOR CONTENTS AND LOCATION OF EACH SURFACE IMPOUNDMENT

☒ YES ☐ NO

7. IMPOUNDMENT HAS LINER SYSTEM

☒ YES ☐ NO

7a. INTEGRITY OF LINER SYSTEM CHECKED

☐ YES ☒ NO

7b. FINDINGS

Black colored floating material covers about 20-25% of pond surface.

8. SOIL STRUCTURE AND SUBSTRUCTURE

Beaumont formation of clay, with about 10 feet below-grade of silty clay followed by sand, clayey and clay layers.

9. MONITORING WELLS

☒ YES ☐ NO Two wells

10. LENGTH, WIDTH, AND DEPTH

LENGTH ~ 400' WIDTH ~ 200' DEPTH 3' - 4'

11. CALCULATED VOLUMETRIC CAPACITY

2 MG

12. PERCENT OF CAPACITY REMAINING

Depends on frequency of discharge of pond water into city sewer.

13. ESTIMATE FREEBOARD

Varied from 1' to 3'.

14. SOLIDS DEPOSITION

☒ YES ☐ NO Solids deposition is possible.

15. DREDGING DISPOSAL METHOD

NONE

16. OTHER EQUIPMENT

Two 5 HP surface aerators are used mainly for odor control.

ATTACHMENT C
RCRA 3012 SITE INSPECTION COMMENTS
RICHMOND TANK CAR COMPANY
TX #05746

The inspection was conducted on Thursday, May 10, 1984 by Philip S. Liang of Engineering-Science, Inc. (ES), representing the Texas Department of Water Resources (TDWR). Mr. Tony Rodriguez, Superintendent of the Angleton facility, accompanied the inspection team.

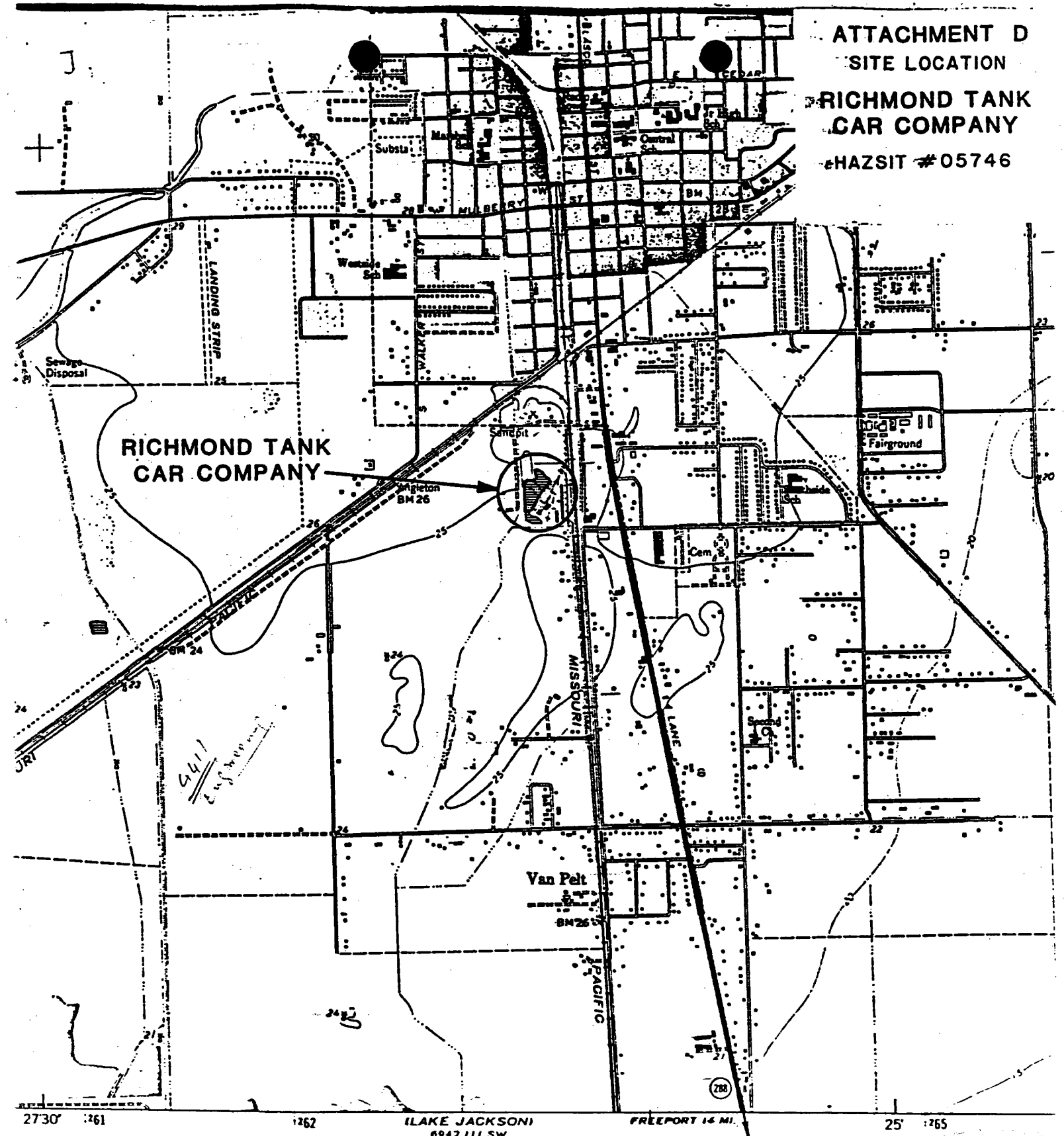
Richmond Tank Car Company operates a washing and maintenance terminal for tank cars and hopper cars at Angleton, Texas. The water used as wash water is pumped from an on-site water well which was dug possibly in 1960.

No well log information is available. Wash water resulting from a steam washing operation is diverted to a nearby below-grade oil/water separator, and then pumped to a two-acre waste lake used as a stabilization pond. The facility is allowed (W.C.O. Permit No. 02019) to discharge the wash water from the waste lake into the Angleton Sewage Treatment Plant at a rate of 20,000 gallons per day. Because of the problems with groundwater contamination, the waste lake was reconstructed in 1976 and the earthen berms were raised to prevent overtopping resulting from heavy rains. The reconstruction reduced the waste lake from six acres to two acres. Two five horsepower surface aerators were installed for odor control. At the time of the inspection, approximately a quarter of the waste lake surface area was covered with black-colored floating material.

The float collected from the oil/water separator, mainly polyethylene pellets and waste oil, was considered a Class I material by Richmond Tank Car Company and had been disposed of at the Brazoria County Landfill facility at Clute, Texas. In May 1983, TDWR indicated that this waste should be Class I non-hazardous, and requested disposal at an authorized site. Since then, the float has been stored on-site. Some float was observed on the ground around the separator. North of the separator is a drum storage area for temporary storage before solidifying with sand and gravel. The consolidating operation is conducted at a low area south to the fresh water pond. No meausres have been undertaken to prevent surface runoff washout. Currently, a contract is under negotiation for disposal of these materials by Texas Ecologist, Inc. at their Corpus Christi landfill site.

Attachments H-1 and H-2 present the background information of the two monitoring wells first sampled after reconstruction of the waste lake. The quarterly monitoring data of 1983 for these wells are presented in Attachments I-1 to I-4. These data indicate a gradual recovery of groundwater quality. Samples were collected from the two wells and the waste lake during the site inspection. The analytical results are presented in Attachments F-1 and F-2. The chlorinated organic (TOX) concentrations were 200 ug/L, 140 ug/L and 60 ug/L, respectively, for the waste lake, Well No. 1 and Well No. 2, indicating that certain chlorinated components exist in the wash water and the groundwater at low concentrations. Values of TOC and COD are within the reported ranges for background data. Heavy metals are lower than the primary drinking water standards except Selenium (Se) in Well No. 2.

Based on the past history of the site and documented low levels of chlorinated hydrocarbons in the groundwater, a low hazard has been assigned to this site. No further action is recommended under the RCRA 3012 Program, although continuing groundwater monitoring of the site is recommended.



SCALE 1:24000

1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ANGLETON, TEX.
N2907.5-W9522.5/7.5

1963
PHOTOREVISED 1974
AMS 6942 III NW-SERIES V882

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANI
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RE

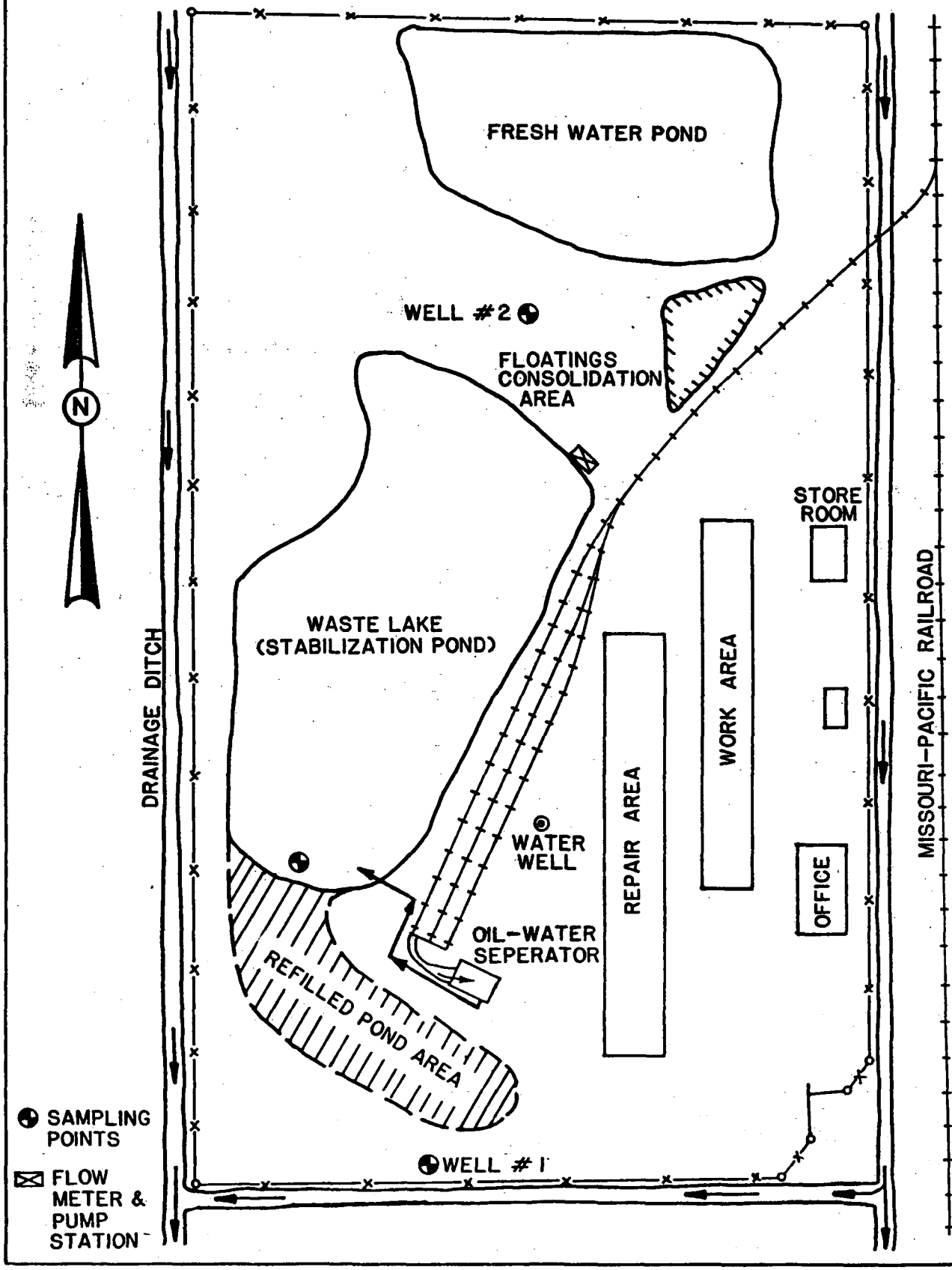
ES ENGINEERING-SCIENCE

ATTACHMENT E

SITE MAP

RICHMOND TANK CAR COMPANY

HAZSITE #05746



CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
36410.03	Richmond Tank Car Co. (HAB-#05746)

SAMPLERS: (Signature) [signature]

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	COD, PH	TOC	8 metals	TOX	Cl⁻		REMARKS
5241	1	5/10	3:30		✓	Monitoring well #1	1	✓	✓	✓	✓	✓		
5242	2	5/10	3:30		✓	Monitoring well #2	1	✓	✓	✓	✓	✓		
5243	3	5/10	3:40		✓	Waste pond.	1	✓		✓	✓	✓		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	5/10/84 5PM				

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:
		[signature]	5-10-84 5 Pm	

Attach F

ENGINEERING—SCIENCE, INC.

924 GEMINI BOULEVARD, HOUSTON, TEXAS 77058 (713) 488-3004

LABORATORY RESULTS

Engineering-Science, Inc.
9920 Gulf Freeway
Houston, Texas 77034

Attn: Mr. Philip Liang

ES PROJECT NO. 8073.99

DATE SAMPLE RECEIVED 5-10-84

DATE DATA TRANSMITTED 5-31-84

CLIENT JOB REFERENCE TX 05746

ATTACHMENT F-1

ES SAMPLE NUMBER	CLIENT IDENTIFICATION	pH S.U.	TOC mg/L	TOX ug/L	Cl^- mg/L	COD mg/L
5241	GW Well #1	7.3	14	140	118	19
5242	GW Well #2	6.4	24	69	277	59
5243	Pond	7.9	--	200	395	551

ES

APPROVED FOR TRANSMITTAL

LABORATORY MANAGER

ENGINEERING—SCIENCE, INC.

924 GEMINI BOULEVARD, HOUSTON, TEXAS 77058 (713) 488-3004

LABORATORY RESULTS

Engineering-Science, Inc.
9920 Gulf Freeway
Houston, Texas 77034

Attn: Mr. Philip Liang

ES PROJECT NO. 8073.99

DATE SAMPLE RECEIVED 5-10-84

DATE DATA TRANSMITTED 5-31-84

CLIENT JOB REFERENCE TX 05746

ATTACHMENT F-2

ES SAMPLE NUMBER	CLIENT IDENTIFICATION	As mg/L	Ba mg/L	Cd mg/L	Cr mg/L	Hg mg/L	Pb mg/L	Se mg/L	Ag mg/L
5241	GW Well #1	< 0.04	0.7	< 0.02	0.04	< 0.002	0.02	0.03	< 0.01
5242	GW Well #2	< 0.04	< 0.5	< 0.02	0.02	< 0.002	0.02	< 0.02	< 0.01
5243	Pond	< 0.04	< 0.5	< 0.02	0.02	< 0.002	0.02	< 0.02	< 0.01

ES

APPROVED FOR TRANSMITTAL

LABORATORY MANAGER

ATTACHMENT G

RICHMOND TANK CAR COMPANY
Monthly Summary
of
Chemical Analysis
of
Wastelake Samples

Parameter	2/1/84	2/6/84	2/13/84	2/27/84	Average	Maximum
Biochemical Oxygen Demand$_5$, mg/l	215	285	182	156	210	285
Chemical Oxygen Demand, mg/l	342	410	545	315	403	545
Total Suspended Solids, mg/l	87	73	34	7	50	87
pH	6.7	6.9	7.1	7.0		7.1
Lab No.	4839	4846	4875	4888		

RESOURCE ENGINEERING

ATTACHMENT H-1

TABLE 1

Monitoring Well No. 1

Date	10Feb77	23Mar77	15Apr77
Silica, ppm	90	520	15.9
Calcium, ppm	92.8	63.5	53.5
Magnesium, ppm	27.8	35.9	14.6
Sodium, ppm	650	417	350
Potassium, ppm	6.98	1.10	2.18
Manganese, ppm	5.25	6.0	1.30
Boron, ppm	5.5	<1.0	0.35
Iron, ppm	1.41	<.01	0.60
Specific Conductance, μmhos/cm^2	3000	1850	1500
Carbonate, ppm	0	0	0
Bicarbonate, ppm	516	479	403
Sulfate, ppm	<1	10	56
Chloride, ppm	1.9	341	2.0
Fluoride, ppm	0.74	0.69	1.22
Nitrate, ppm	62	<.1	13
pH	7.4	7.4	7.4
Total Dissolved Solids, ppm	1140	650	1020
Free Alkalinity, as ppm $CaCO_3$	0	0	0
Total Alkalinity, as ppm $CaCO_3$	860	785	660
Total Hardness, as ppm $CaCO_3$	358	317	194
Total Organic Carbon, ppm	368	408	161
Methylene Blue Activated Substances, ppm	<1.2	<1.2	<1.2

ATTACHMENT H-2

TABLE 2

Monitoring Well No. 2

Date	10Feb77	23Mar77	15Apr77
Silica, ppm	52	6	8.7
Calcium, ppm	33.5	23.9	39.0
Magnesium, ppm	22.6	21.8	22.6
Sodium, ppm	298	330	360
Potassium, ppm	69.8	0.9	2.73
Manganese, ppm	0.34	1.8	1.2
Boron, ppm	16.4	<1	0.20
Iron, ppm	2.14	<.01	1.00
Specific Conductance, $\mu mhos/cm^2$	1360	1500	1740
Carbonate, ppm	0	0	0
Bicarbonate, ppm	223	184	209
Sulfate, ppm	<1	65	90
Chloride, ppm	4.6	290	35
Fluoride, ppm	0.54	0.14	0.47
Nitrate, ppm	13	38	44
pH	7.0	6.8	7.1
Total Dissolved Solids, ppm	510	432	1160
Free Alkalinity, as ppm $CaCO_3$	0	0	0
Total Alkalinity, as ppm $CaCO_3$	366	302	343
Total Hardness, as ppm $CaCO_3$	181	153	194
Total Organic Carbon, ppm	43	70	37
Methylene Blue Activated Substances, ppm	<1.2	<1.2	<1.2

RESOURCE ENGINEERING

ATTACHMENT I-1

January 24, 1983

Richmond Tank Car Company
P.O. Box 1000
Angleton, Texas 77515

Attention: Mr. Jerry Klingbeil

Report of chemical analysis of wastewater effluent taken from the monitoring wells on January 3, 1983.

Chemical Analysis

Parameter	Well #1	Well #2
Total Organic Carbon, mg/l	33	16
Methylene Blue Active Substances, mg/l	0.36	0.44
pH	6.5	6.5
Specific Conductante, $\mu mhos/cm^3$	972	534

Very truly yours,

RESOURCE ENGINEERING, INC.

Bo Blankfield

Bo Blankfield
Laboratory Director

LAB NO. 4309

RESOURCE ENGINEERING

ATTACHMENT I-2

August 31, 1983

Richmond Tank Car Company
P.O. Box 1000
Angleton, Texas 77515

Attention: Mr. Jerry Klingbeil

Report of chemical analysis of wastewater effluent taken from the monitoring wells on August 15, 1983. Received 8-24-83.

Chemical Analyses

Parameter	Well #1	Well #2
Total Organic Carbon,mg/l	54	32
Methylene Blue Active Substances, mg/l	0.08	0.08
pH	7.0	6.7
Specific Conductante, µmhos, cm	1246	630

Very truly yours,

RESOURCE ENGINEERING

Bo Blankfield
Laboratory Director

BB:mrg

LAB NO. 4638

Examples from each year

RESOURCE ENGINEERING

ATTACHMENT I-3

October 4, 1983

Richmond Tank Car Company
P.O. Box 1000
Angleton, Texas 77515

Attention: Mr. Jerry Klingbeil

Report of chemical analyses of wastewater effluent taken from the monitoring wells on 9-13-83. Received 9-30-83.

Chemical Analysis

Parameter	Well #1	Well #2
Total Organic Carbon, mg/l	24	13
Methylene Blue Active Substances, mg/l	0.02	0.01
pH	6.5	6.7
Specific Conductante, µmhos/cm	1,157	535

Very truly yours,

RESOURCE ENGINEERING

Bo Blankfield

Bo Blankfield
Laboratory Director

BB:mrg

LAB NO. 4679

ATTACHMENT I-4

February 8, 1984

Richmond Tank Car Company
P.O. Box 1000
Angleton, Texas 77515

Attention: Mr. Jerry Klingbeil

Report of chemical analysis of wastewater effluent taken from the monitoring wells on 1-13-84. Received on 1/20/84.

Chemical Analysis

Parameter	Well #1	Well #2
Total Organic Carbon, mg/l	6	2
Methylene Blue Active Substances, mg/l	<0.01	<0.01
pH	6.3	6.2
Specific Conductante, µmhos, cm	1040	770

Very truly yours,

RESOURCE ENGINEERING

Bo Blankfield
Laboratory Director

BB:mg

LAB NO. 4819

ATTACHMENT J

GROUNDWATER MONITORING SYSTEM SUPPLEMENTAL FORM

1. FACILITY NAME and LOCATION:

   Richmond Tank Car Company

   Old Clute Road

   Angleton, TX 77515 Hazsit # TX 05746

2. SKETCH SHOWING WELL LOCATIONS — ATTACHMENT NO. E

3.

Monitoring Well ID	Well Depth	Static Water Depth	Casing Depth	Type of Casing	Screening Depth
1	17'	~ 10'	NA	4" PVC	NA
2	25'	~ 15'	NA	4" PVC	NA

4. OBTAIN COPY OF WELL CONSTRUCTION DESIGN - ATTACHMENT NO. NA

5. OBTAIN COPIES OF COMPANY's PERTINENT SELF MONITORING DATA ATTACHMENT NO. I-1 to I-4

6. COMMENTS

ENGINEERING-SCIENCE, INC.
SITE INSPECTION TEAM
SITE SAFETY AND WORK PLAN

A. GENERAL INFORMATION

Site: Richmond Tank Car Company Hazsit No.: TX 05746

Location: P.O. Box 1000, Angleton, Texas 77515

Plan Prepared by: David B. Johnson Date: April 25, 1984

Approved by: _____ Date: _____

Objective(s): Establish history of on-site waste management operations. The existing and especially the closed portion of the on-site pond should be inspected. Samples of the pond, sediments, and groundwater should be collected if possible. Obtain copies of groundwater analyses submitted to the TDWR as part of their groundwater monitoring program. Analyses should include metals such as Cr, Zn, Pb and chlorinated organic compounds, either specifically or as TOX.

Proposed Date of Investigation: May 1984

Preliminary Assessment Hazard: High _____ Medium _____ Low X
None _____ Unknown _____

B. SITE/WASTE CHARACTERISTICS

Waste Type(s): Liquid X Solid X Sludge _____ Gas _____

Characteristic(s): Corrosive X Ignitable X Radioactive _____
Volatile _____ Toxic _____ Reactive _____
Unknown _____ Other _____ (Name) _____

Facility Description: Facility involved in tank car cleaning and repair.

Principal Disposal Method (type and location): washwater is discharged to a 2,000,000 gallon unlined stabilization pond.

Unusual Features (dike integrity, power lines, terrain, etc.) None

Status: (active, inactive, unknown): active

History: (worker or nonworker injury, complaints from public, previous remedial or enforcement action): complaint that "float" was illegally sent to a landfill not licensed for Class I waste.

C. HAZARD EVALUATION

Potential hazards are concerned with the contact of waste materials and samples with skin, although there is a small potential respiratory hazard due to the pond presence. If significant odors are associated with the active pond, the TLV meter should be used to assess potential exposures. The Project Manager and Project Safety Manager should be contacted if the TLV meter will be used.

D. SITE SAFETY WORK PLAN

PERSONAL PROTECTION

LEVEL OF PROTECTION: A____ B____ C____ D X

MODIFICATIONS: Wear gloves during sample collection.

SURVEILLANCE EQUIPMENT AND MATERIALS: well bailer, pH meter, TLV meter

SITE ENTRY PROCEDURES: Contact facility personnel to arrange inspection date

DECONTAMINATION PROCEDURES: Follow standard procedures outlined in "Generic Work Plan for RCRA 3012 Site Inspections"

Special Equipment, Facilities, or Procedures: None

Team Member	Responsibility
Philip S. Liang	

E. EMERGENCY INFORMATION

LOCAL RESOURCES

Ambulance: (409) 233-2651

Hospital: (409) 233-4421

Poison Control Center: (409) 654-1701

Police:

Fire Department: (409) 233-2651

EPA Contact: Carlene Chambers (214) 767-6424

TDWR Contact: Daniel L. Scheppers (512) 475-1344

Emergency Contacts:

Project Safety Manager: Dr. Barry North (303) 455-4427

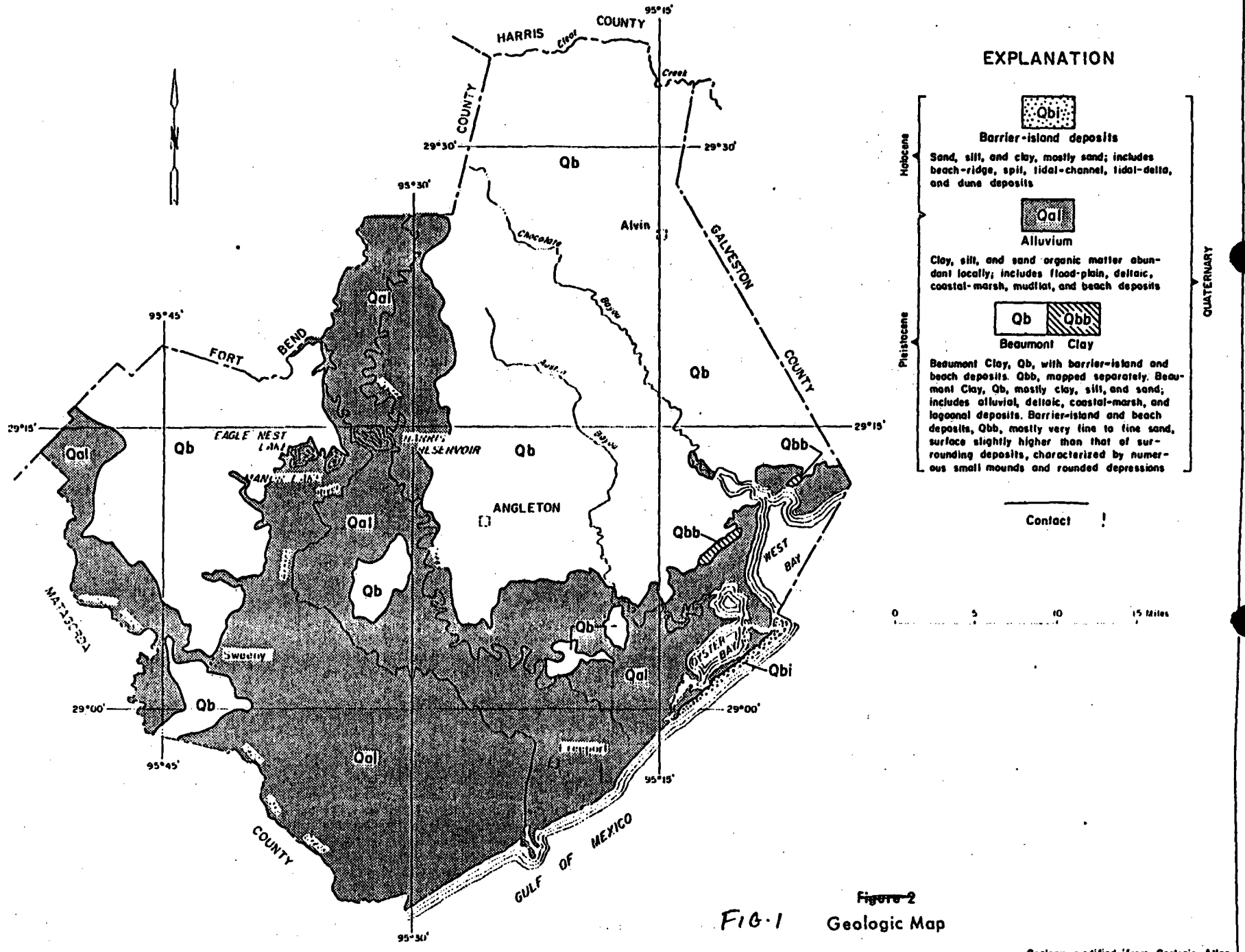
Project Manager: David G. Johnson (512) 477-9901 892-3755

Deputy Project Manager: Stephen C. Neeley (512) 477-9901

F. EMERGENCY ROUTES

HOSPITAL: _____

OTHER: _____



EXPLANATION

Qbi — Barrier-island deposits

Sand, silt, and clay, mostly sand; includes beach-ridge, spit, tidal-channel, tidal-delta, and dune deposits

Qal — Alluvium

Clay, silt, and sand organic matter abundant locally; includes flood-plain, deltaic, coastal-marsh, mudflat, and beach deposits

Qb | **Qbb** — Beaumont Clay

Beaumont Clay, Qb, with barrier-island and beach deposits. Qbb, mapped separately. Beaumont Clay, Qb, mostly clay, silt, and sand; includes alluvial, deltaic, coastal-marsh, and lagoonal deposits. Barrier-island and beach deposits, Qbb, mostly very fine to fine sand, surface slightly higher than that of surrounding deposits, characterized by numerous small mounds and rounded depressions

Holocene

Pleistocene

QUATERNARY

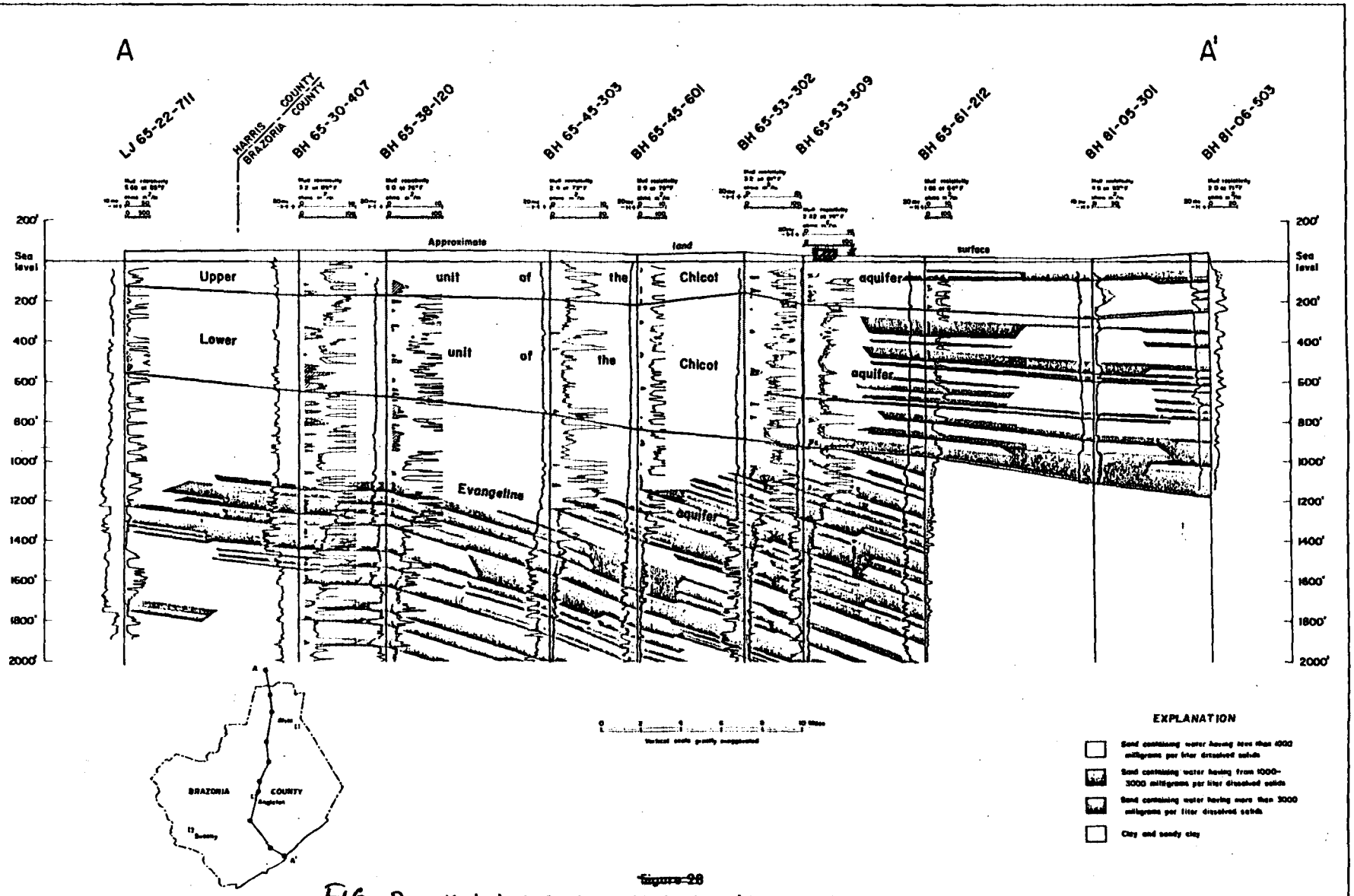
Contact

~~Figure 2~~

FIG. 1 Geologic Map

Base by U.S. Geological Survey, 1964

Geology modified from Geologic Atlas of Texas, Houston sheet, 1968



~~Figure 28~~

FIG. 2 Hydrologic Section A-A', Harris and Brazoria Counties

* APPROXIMATE SITE LOCATION

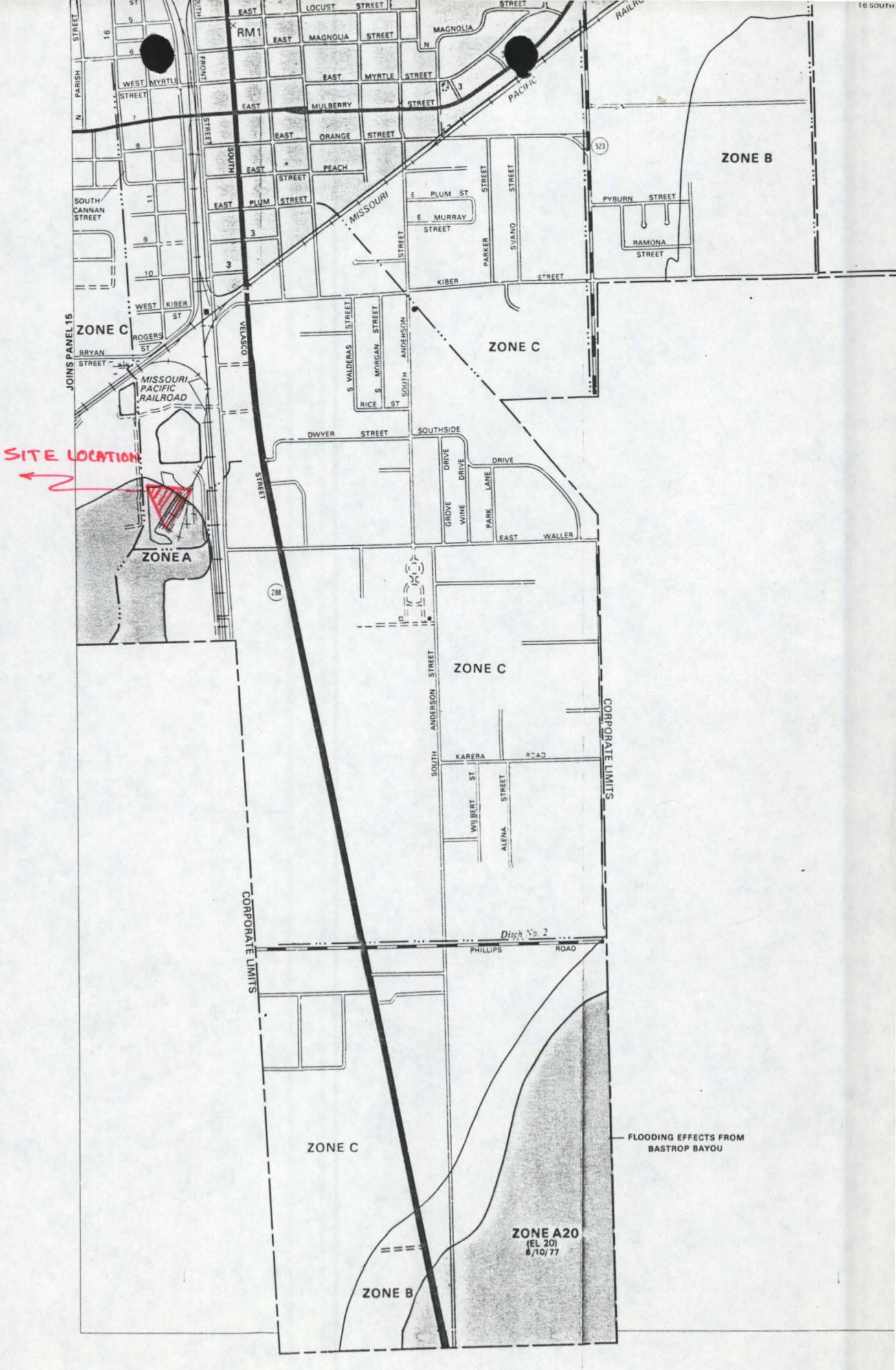


FIG. 3 - FLOOD PLAIN MAP

Photographer/Witness

Philip S. Liang

Date / Time / Direction

5/10/84 3 PM NORTHEAST

Comments: Discharge point into the 2-acre pond.

Photographer/Witness

Date / Time / Direction

Comments:

Photographer/Witness

Philip S. Liang

Date / Time / Direction

5/10/84 3PM Northwest

Comments: Float consolidation area where the float from oil/water separator are mixed with sand, gravel and sulfur to a liftable level.

Photographer/Witness

Philip S. Liang

Date / Time / Direction

5/10/84 3pm west

Comments: Below-grade oil/water separator; piles of float on both sides; leakage of washwater into soil.

Photographer/Witness

Philip S. Liang

Date / Time / Direction

5/10/84 3pm west

Comments: Part of waste lake; floating pellets & oily material;

Photographer/Witness

Philip S. Liang

Date / Time / Direction

5/10/84 3pm west

Comments: Storage drums for floating material skimmed off from the seperator.